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Parflex Hoses Reduce The Noise You Feel

Noise in a hydraulic application isn't always audible, but more often, a vibration. As noise travels through the components the operator comes into contact with, the operator is exposed to these vibrations.

Vibrations may not sound like a big deal but after a few hours of constant exposure, the operator's hands become numb and with long term exposure, this vibration can cause nerve damage.

Parflex engineers continually work to reduce noise and create hoses with optimum safety features for operator handling. To eliminate noise, a thermoplastic fiber reinforced hose offers the greatest damping benefit. The hose is constructed using a variety of smooth bore polymer inner cores for a high degree of chemical compatibility, high strength fibers and a polymer jacket. Also, a fiber reinforced thermoplastic hose has an inherently higher VE rate than that of an equivalent bore wire reinforced rubber hose, resulting in a total lower quality factor (Q). A low value of Q indicates a high rate of energy loss relative to the stored energy of the resonator. So a low Q makes oscillations decay more quickly. Therefore, components and designs that reduce Q in a system are beneficial for reducing noise transmission. Below are two examples where Parflex hoses were able to reduce noise, improve operator handling and increase safety.

Situation 1:

Problem: Noise problem on motor home power steering system. The power steering pump was 35 ft. away from the steering actuator and the wire braided rubber hose routed between the pump and the motor picked up transmitted noise from hydraulic and other mechanical components to the steering column.

Solution: Hose 53DM. This simple change resulted in a dramatic reduction in noise experienced by the operator and complaints about operator fatigue. In this example, the fluid and system born noise was extensive. However, the long thermoplastic hose assemblies routed in the system enabled sufficient noise dampening.

Situation 2:

Problem: Operators on turf maintenance equipment complained of a pulse in the steering column, resulting in a "popping" noise coming from the steering valve. Steel tubing used in the application has zero dampening effect.

Solution: Hose 510C. The high volumetric expansion rate naturally damped the pressure surge, eliminated the pulse in the steering column and eliminated the annoying noise.

With annual sales exceeding \$12 billion in fiscal year 2011, Parker Hannifin is the world's leading diversified manufacturer of motion and control technologies and systems, providing precision-engineered solutions for a wide variety of mobile, industrial and aerospace markets. The company employs approximately 58,000 people in 47 countries around the world. Parker has increased its annual dividends paid to shareholders for 55 consecutive fiscal years, among the top five longest-running dividend-increase records in the S&P 500 index. For more information, visit the company's website at www.parker.com, or its investor information website at www.phstock.com.

Literature is available upon request. For more information, please contact:

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